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54 **Hair treatment composition comprising cysteine or a salt thereof.**

57 A hair treatment composition which comprises (A) 3 to 10% by weight, calculated as cysteine, of cysteine or its salt, (B) a saccharide or a polyhydric alcohol which has 4 to 20 carbon atoms, has 3 or more hydroxyl groups in the molecule, and which has no aldehyde group or ketone group, with the proportion by weight, (B)/(A) being less than 3.

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On the fifth day, the guinea pigs were evaluated.

Averages of the evaluations of the five guinea pigs which constituted the test group are shown in Table

2.

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Evaluation standard:	
Same degree of redness as comparative product was observed	C
Less degree of redness than that observed with comparative product	B
Slight degree of redness was observed	A

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Table 2

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(% by weight)

Components	Invention products		Comparative Product
	4	6	5
L-cysteine	6.0	6.0	6.0
Ammonium thioglycolate	1.0	1.0	1.0
EDTA•4Na	0.5	0.5	0.5
Monoethanolamine	<— Suitable amount* <sup>1</sup> —>		
Sorbitol	5.0	10.0	-
Water	<— Balance —>		
Mildness to the skin	B	A	C

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\*<sup>1</sup>): Amount required to adjust pH to 9.0

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## Example 3:

Using the compositions shown in Table 3, the presence or absence of flaking was determined. 50 microliters of each of the compositions were dropped on a transparent glass plate and allowed to dry. The conspicuousness of crystals was observed by the naked eye on a backscreen of black color. The results are shown in Table 3.

45 Evaluation:

Conspicuousness of crystals:

50 Slight: A  
Moderate: B  
Very conspicuous: C

55

Table 3

(% by weight)

Components	Invention products				Comparative Product
	1	2	3	4	5
L-cysteine	6.0	6.0	6.0	6.0	6.0
Ammonium thioglycolate	1.0	1.0	1.0	1.0	1.0
EDTA•4Na	0.5	0.5	0.5	0.5	0.5
Monoethanolamine	← Suitable amount* <sup>1</sup> →				
Inositol	5.0	-	-	-	-
Saccharose	-	5.0	-	-	-
Sodium gluconate	-	-	5.0	-	-
Sorbitol	-	-	-	5.0	-
Water	← Balance →				
Conspicuousness of crystals	B	A	A	B	C

\*<sup>1</sup>): Amount required to adjust pH to 9.0

Having now fully described the invention, it will be apparent to one of ordinary skill in the art that many changes and modifications can be made thereto without departing from the spirit or scope of the invention as set forth herein.

#### Claims

1. A hair treatment composition, which comprises:
  - (A) 3 to 10% by weight, calculated as cysteine, of cysteine or a salt thereof, and
  - (B) a saccharide or a polyhydric alcohol which has 4 to 20 carbon atoms, has 3 or more hydroxyl groups in the molecule, and which has no aldehyde group or ketone group, the proportion by weight, (B)/(A) being less than 3.
2. The hair treatment composition according to Claim 1, wherein said component (B) is selected from the group consisting of aldonic acids, saccharic acids, sugar alcohols, condensed saccharides and cyclic polyhydric alcohols.
3. The hair treatment composition according to Claim 1, wherein said component (B) is selected from the group consisting of sorbitol, mannitol, maltitol, xylitol, saccharose, gluconic acid or its salts and inositol.
4. The hair treatment composition according to Claim 1, wherein the amount of said component (B) is 0.5 to 20% by weight based upon the total composition.
5. The hair treatment according to Claim 1, wherein said hair treatment composition is a permanent wave agent or a set lotion.
6. The hair treatment composition according to Claim 5, which optionally comprises a chelating agent and a base.



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# EUROPEAN SEARCH REPORT

Application Number

EP 91 12 0310

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	US-A-4 947 878 (CREWS H. R. ET AL.) * abstract * * column 4, line 26 - line 38 * * column 5, line 45 - line 65 *	1-6	A61K7/09
A	DE-A-3 022 049 (GUREISU KAGAKU K. K.) * page 10 *	1-6	
A	EP-A-0 302 265 (WELLA AG.) * page 3, line 10 - line 20 * * page 4, line 2 - line 15 *	1-6	
A	EP-A-0 320 612 (WELLA AG.) * page 2, line 36 - line 48 *	1-6	
D	& JP-A-2 502 539		
A	FR-A-2 348 695 (KYOWA HAKKO KOGYO K. K.) * the whole document *	1-6	
D	& JP-A-52 128 241		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A61K
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 06 MARCH 1992	Examiner AVEDIKIAN P. F.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : number of the same patent family, corresponding document	